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## Regional Planting Roundup

FARMERS from coast-to-coast and border-to-border are now laying their plans for another year of top production for nearly all products. Demand will be fairly strong, and prices for some products are uncertain, with prices for most declining to some extent as the season progresses. But the price outlook isn't bad—prices for most products will still be higher than before the war.

This is next to the last year of the present guarantee of price supports at 90 percent of parity. Farm production costs are way up, in many cases at all-time highs. So farmers, generally, want to make the most efficient use of their land, labor, and equipment.

Most farmers want to return to better soil management practices after years of hard war use of their land. At the same time they want to take advantage of the favorable prices while their products are in strong demand. This will call for careful planning to make the most efficient use of their land, for both this year and the future.

Farmers who hire labor are paying record wages, much above pre-war. And these wages will stay up as long as industrial wages and farm

income stay up. So farmers are devising ways of getting more output per worker, by streamlining operations in the field and barn, adopting higher yielding varieties, and doing more work with machines.

After several war years of wear and tear, much farm machinery, buildings and other equipment are worn out or well past their prime. Many farmers will want to make replacements as new machines and materials become more readily available. But they are now expensive and farmers who want to play safe will buy only what they most need, or what will increase their earnings and can be paid for out of incomes of the next few years. These farmers will defer other purchases till the future, in the belief that prices will be lower then.

The following summaries touch on some of these production problems facing farmers in various regions of the country. They suggest ways to meet them for Northeast and Lake States dairy farmers, Piedmont peanut farmers, Texas cotton farmers, Corn Belt hog farmers, Great Plains, wheat farmers, ranchers, and others.

## Northeast and Lake States

**W**ITH spring planting operations at hand, Northeast dairy farmers have several important problems to consider. These include the need for: (1) greater efficiency in the use of labor, both in the field and barn, (2) better forage crop management, (3) more cows per farm wherever feasible, and (4) the smoothing out of seasonal ups and downs in production. Meeting these and similar problems will help put dairy operations in a stronger position in the years ahead to cope with competition from other regions and to produce under less favorable prices.

### High Farm Wages

Because price relationships are expected to continue favorable for dairying in the Northeast, even though the price of milk may decline to some extent during the year, dairy farmers will do well to keep herds generally as large as forage production and barn facilities permit. And most will find it profitable to feed their herds at heavy rates, as heavy as in 1945.

Northeast dairymen in general have or will have to organize their enterprises on the basis of fairly high wages for labor. Wages probably will be up for several years, as long as industrial wages remain high and farm incomes stay up. This means the use of equipment and methods to increase output per worker. Crops can be produced and stored in fewer man-hours with tractor and accessory equipment. But the use of tractor power on many Northeast farms can be made more effective by opening up the fields, so to speak, such as by draining wet spots or removing stone walls. Many barns need remodeling so that hay and other crops can be stored more quickly with less labor, and so that chore work can be

streamlined. In addition to better barn arrangement for shortening chore time, new techniques for fast milking can be adopted on many farms. Recent experience of some farmers shows the possibility of milking at the rate of 2 to 4 minutes of work per cow per milking, compared to the usual 6 to 10 minutes on the majority of the farms.

### Machines Streamline Jobs

Investments in machinery, buildings, and equipment that streamline farm operations will be profitable, especially if they can be paid for out of earnings within a reasonable period. As production of farm machinery has been at record and near-record levels during the past few weeks, farmers should find it easier than in the past to obtain the machinery they need, barring serious labor stoppages and material shortages. Machinery manufacturers are putting the emphasis on planting and cultivating equipment till spring and early summer, then will emphasize harvesting machinery. Some building supplies, particularly lumber, will continue hard to get for some time, but much other equipment, such as fencing and for the barn, is getting more plentiful. However, farmers may find it profitable in the long run to buy only what they need most in the immediate future, and buy the other things later on when less expensive.

Another good use of capital is in improving hay and pasture lands. With fertilizers and seeds relatively cheap now, reasonable expenditures on improving permanent pastures could be expected to give generous returns on farms needing more pasturage in spring and fall. Also annual pastures to supplement permanent ones and thus insure good grazing throughout the season would be a good plan on many farms. More frequent seeding of hay fields with the most productive grasses or legumes, together with the use of more

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fertilizer, usually will pay good dividends.

Making more efficient use of labor, increasing pasture grazing capacity, and upping the yield of high quality hay all will help give a better balance between herd size, feed production, and labor supply. And even on some small farms, such a program will make it possible to increase the size of herd without adding to the hours of work.

Increased demands for fluid milk in recent years without any pronounced change in the seasonal pattern of production has accentuated the Northeast problem of balancing seasonal supply and demand. Most farmers of the region seem to agree that it is to their advantage to supply at least the needs for fluid milk during the usual short season in the fall. One method of doing this is to produce milk more evenly by seasons. Heavier feeding in the late summer and the freshening of more cows in the early fall are two ways of evening out the seasonal low production period on many farms. Cows that freshen in the fall produce more milk throughout the year, on the average, than spring fresheners. And it has generally been more profitable for Northeast dairymen to stress production in the fall and winter than in spring and summer, though this takes more careful management. Many Northeast dairymen will find it profitable to keep such a shift in herd management in mind when planning their operations this year.

### **More Milk in Lake States**

The outlook for dairy products from the Lake States in the next few years now appears better than for alternative products. Dairymen who have good herds and large enough labor force will probably make money by keeping their present number of cows and continuing the recent high rates of feeding. But normal culling on many farms will be needed to improve herd efficiency, even if this calls for temporary reduction in herd size. Also, prices of dairy cows for slaughter may be lower another year. Enough heifers are expected to be available for normal replacements during the next few years for those who do not raise their own.

In general, Lake States dairy farmers will be wise this year to plant about the same acreages in feed grains as in recent years. But in some parts of the region—in eastern Michigan, for example—some of this

grain land can be profitably planted to sugar beets, where it does not jeopardize dairy feed production. Many dairy farmers in southern Minnesota and southern Wisconsin generally produce more feed grains than needed for their dairy herds. A moderate increase in hog production seems to be a desirable way of marketing the extra grain. In Michigan, however, where feed grains are not so plentiful, an increase in the production of hogs will not be profitable in 1947 if it means keeping fewer dairy cows than forage and other resources warrant.

Dairy farmers in the Lake States who are short on good quality hay and pasture will get dividends in the years ahead by starting new seedings, particularly legumes, this year. Good returns may also be expected from fertilizing and renovating pastures. Annual pasturage of sudan grass, small grains, sweet clover, or alfalfa can be used to advantage in supplementing permanent pastures during the midsummer months. In general, abundant pasture throughout the grazing season will increase milk production and at the same time keep costs down.

### **Careful Poultry Management**

With poultry prices likely to be near support levels by mid-1947, farmers, particularly in the Northeast and Lake States, will find it worth while to make very careful plans this year for their poultry enterprises. The outlook is closely tied to the supply and demand for red meats; record and near-record per capita supplies of red meats at somewhat lower prices are expected after the middle of the year. Thus some drop in the demand for eggs and poultry meat seems almost certain.

Poultry flocks should be adjusted to a size that can be handled with good practices and at a high level of efficiency. In some cases this may mean a reduction in numbers, particularly if houses are overcrowded. In planning their acreages in grains, farmers should keep in mind that the prices of purchased poultry feeds will probably continue to be relatively higher than the feeds they produce themselves, and that close culling for high-producing flocks may be necessary to return a profit on purchased feed.

Considerable progress has been made by marketing organizations in many areas, particularly in the Northeast and Lake States, in help-

ing farmers improve the quality of their poultry products and finding outlets for the higher quality products. Further progress in this direction during the next few years may go on at even a faster rate than during the war—many poultry farmers will find it profitable to help in improving marketing facilities to obtain top prices for graded, quality products.

### Fewer Potatoes

Potato production methods have improved very rapidly in recent years, with the acreage in the Northeast and Lake States being concentrated more and more in areas and on farms best adapted to intensive practices and high yields. Production capacity throughout the Nation is now far in excess of probable market demand. Planting decisions of individual potato growers should be guided by prospective markets for their crops as well as by price support programs that are announced. Because of the general outlook some specialized growers may find it profitable in the long run to reduce their potato acreages and plant soil improving crops to maintain the productivity of their soil. At the same time, less specialized growers will almost certainly be better off by shifting toward alternatives which have a more promising outlook during the next few years.

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## Corn Belt

**C**ORN Belt farmers concerned about how much the large wartime acreages of corn and soybeans depleted their soils, want to get back to better crop rotations to protect and rebuild their soil. Those in the predominantly livestock areas, where the land is rolling or hilly, are under more pressure to readjust than those on the fairly level farms as in the cash grain areas in central Illinois and central Iowa.

But many farmers with soil not too badly depleted will wait another year to get back to better rotation systems. They will not want to pass up this year's prospect of good returns from big crops of corn and soybeans. Some see an opportunity to grow even larger acreages of soybeans than last year. The price outlook for 1947 crops is better for soybeans than corn, with good prospects

for selling soybeans well above the support price. On the other hand, corn may sell for little more than the Government loan value. Although world production of oil seeds in 1947 should be higher than in 1946, inventories of fats and oils will be built up only moderately from the present exceptionally low levels.

Corn Belt farmers who normally produce some corn for sale will be in a better position than the predominantly livestock farmer to increase soybean acreages. They can substitute one cash crop for another, and are more likely to operate level farm land where the danger of accelerating erosion is not so great. But most farmers planning to increase acreages in soybeans will do well also to plan a compensating decrease in corn acreages so as not to increase the total acreage of intertilled crops.

### Profits in Better Forage

This year many Corn Belt farmers are in a fortunate position to hold over reasonably good pastures and meadows by seeding smaller acreages of oats than last year. On the majority of farms, more pasture for livestock is needed. The supply of feed grains is not scarce as it was a year ago, and there is not the same urgency for feed crops which could be harvested early to fill the gap caused by soft corn in 1945. Many farmers probably will have large carry-overs of oats at harvest time this summer, which will have a depressing effect upon the market for oats if another bumper crop is harvested this year.

Even though grass and legume seeds for seeding this spring will not be abundant and prices will be high, the money spent for them will be a good investment. Many farmers will want to plant legume, grass, or mixture of legumes and grasses in every acre of small grains seeded in 1947. Now is the time to start preparing for a soil rebuilding program. Having a large acreage of new seedings on the land at this time next year will permit a wide choice in the 1948 cropping program. Old pastures and meadows carried over this year can be entirely replaced next year with new seedings. If still larger acreages of sod crops are needed, the choice can be made without waiting another year to start the crop. The cash-grain farmer, for example, who does not now foresee any need for so large an acreage of hay and pasture, can have a profit

on his investment in seed by using part of his new seedlings as a green manure crop in 1948. Those who have plowed under a catch crop of sweet clover or alfalfa ahead of a crop of corn report five more bushels of corn an acre.

During the war the average Corn Belt farmer greatly increased his use of lime, phosphate and mixed fertilizers. Farmers on the best types of soil as well as those on less productive types have used more fertilizer. They found that it paid, especially on fields that have been heavily farmed in recent years. Use of fertilizer in 1947 will again bring good returns because the prices of fertilizers have not advanced relatively as much as prices for farm products. (Rock phosphate in Chicago, for example, is about \$14 a ton now compared with \$12 a ton in 1941.) The returns can be increased by testing the soil before buying fertilizer. Almost every county in the Corn Belt now has a soil testing laboratory equipped to serve every farmer. In computing the probable returns from a ton of lime or fertilizer, the full period of the effectiveness of the application should be kept in mind.

In planning a fertilizing program do not neglect pastures. Farmers having good pastures have the foundation laid for low-cost production of cattle or sheep. Some farmers reduced their herds because they plowed up land in hay and pasture. But good foundation herds should be preserved. Farmers who now shift in the direction of more and better quality hay and pasture will have feed to support more cattle and sheep, to sell at relatively good returns. Cattle and sheep raised on high-yielding and good-quality pastures and hay will likely be among the best postwar adjustments available to many Corn Belt farmers. Surpluses of beef or lamb now appear less likely than for many other products.

### Market Hogs or Corn?

Because market conditions were so uncertain last fall at breeding time, many Corn Belt farmers were cautious about increasing the 1947 spring farrowings despite the record 1946 corn crop. But prospects are now fairly good for hog prices early in 1948 which will return some profit above the present loan price for corn, about \$1.15 a bushel. Some farmers

will consider the alternative of placing their corn under loan instead of feeding it. From the standpoint of the longer-time returns from Corn Belt production, however, it would seem wise to get current supplies of corn converted into salable livestock products before wartime demands subside. Accordingly, a 1947 fall pig crop considerably larger than the 1946 fall crop now seems desirable.

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## South

**B**ECAUSE the prospective demand in 1947 is generally good for Southern farm products, many farmers in this region may find it advantageous to continue planting more row crops in 1947 than is good for the land. But to keep production more in line with demand, it will be necessary to boost the acreage of some crops and cut down on others. Larger acreages than last year seem in order for cotton, sweetpotatoes, soybeans for beans, and sugarcane for sugar. In general, that is true also for feed grains and forage crops. Smaller acreages seem desirable for peanuts for nuts, potatoes, burley tobacco, and to a slight extent flue-cured tobacco. The continuing strong demand for wheat and rice in 1947 suggests large acreages of these crops.

Conditions in general should make a big output of red meats and milk profitable for southern farmers. And, as the supply of red meats becomes more plentiful, the demand for poultry products probably will decline. Fewer hens and pullets on farms points to a smaller production of eggs than in 1946, a desirable shift to minimize future marketing problems. Because of the need for more milk in the South, at favorable prices, farmers will find it worthwhile to produce more milk, especially when this is done getting a larger output per cow.

### More Cotton Needed

Although the cotton acreage has shrunk sharply in the last decade, cotton is still the leading crop on most Cotton Belt farms. Because cotton is produced under a wide variety of conditions, adjustments will vary from area to area and from farm to farm. A few examples may

illustrate how the general outlook might be useful to cotton farmers in planning 1947 operations.

Southern farmers are in better position this year to increase their cotton acreage than during the war. Present and expected prices, coupled with a favorable demand and supply situation (present estimates place the August 1, 1947, carry-over at approximately 3.5 million bales, about half the 1946 carry-over) would perhaps warrant a fairly large boost in total acreage this year. The largest increases can be expected to come in the Southwest, where poor weather has held down acreage for the past 2 years. Increases in the Southeast are likely to be tempered more by competition from other cash crops, such as tobacco and peanuts, as well as by off-farm employment opportunities. While their supplies of fertilizers and equipment will influence individual farmers in making their planting decisions, the most important factors will be the acreage available, the nature of the soil and the prospective labor supply.

### **Texas, Delta Prospects**

With the favorable outlook for cotton, commercial cotton farmers, such as those in the High Plains of Texas, the Mississippi Delta, and the Coastal Plains, should find it pays to spread their cotton to more acres in 1947. Of course, this spreading out will be wiser for some than for others, depending on conditions such as weather, labor supply, and the supplies of machinery, fertilizers, and poison available. Though the use of mechanical cotton pickers and flame cultivators is increasing on cotton farms, there probably will not be enough of them in 1947 to cut down very much on the need for labor. More fertilizer will be available, but the demand for it is greater. The late fall in 1946 encouraging large numbers of boll weevils to hibernate, together with the scarcity of many insecticides can mean serious weevil damage this year.

In the Piedmont, Coastal Plains, and the Hill areas of Mississippi, Alabama, and Tennessee, as well as other southeastern areas, a large part of the farms are operated chiefly by the farmers and their families. On many of these farms the return of a veteran or war worker would add materially to the labor force. In this case the use of idle cropland for more cotton or even a

reduction in feed crops is likely to prove profitable. But these farmers must be reasonably sure of sufficient labor to meet peak needs. On other farms where labor will still be tight the farmers may have to seek other alternatives to cotton in order to get the most returns.

### **Southeast Cotton Problems**

Cotton farmers in the Piedmont and Eastern Hilly areas, as a general rule, have fewer cash crop alternatives than in most farming areas. On many of these farms, especially the smaller ones, opportunities for increasing income are in off-farm employment. However, in some localities with favorable local markets farmers can profitably supplement cotton with dairying, poultry, and fresh vegetables if large additional outlays of capital for buildings and equipment are not needed. Farmers should be cautious about making shifts involving large outlays of capital which would require heavy indebtedness.

Because many farmers in the Piedmont and Eastern Hilly areas have small farms, making it increasingly difficult to compete in cotton production with other areas adapted to mechanized methods of production, they should now consider enlarging their operations in order to become more efficient. Though this is a long-time adjustment some farmers might begin in 1947 to effect this change. But because prices for land are now high, it probably would be more advantageous to rent than to buy in order to get additional land.

Cotton farmers in the humid parts of the Cotton Belt can increase production in 1947 on a given acreage through the use of improved production practices. Land selectivity, proper fertilization, use of better seed, poisoning and other methods of weevil control, are practices leading to increased yields. These practices can be carried out with little additional labor.

### **Small Southwest Cotton Farms**

In many areas of the Southwest such as East Texas and the Hill areas of Oklahoma, Arkansas, and Louisiana a large part of the farms are small family units, with adjustment problems somewhat similar to the ones in the East. But the land in these less humid areas does not re-

spond as readily to fertilization and the use of improved practices. Hence, there is less opportunity for raising yields so that any sizeable increase in production must come about through larger acreages. This tends to limit the opportunity for farmers in these areas to compete successfully with the more highly commercialized areas. Some cotton farmers in these western areas have already turned to other enterprises such as poultry and dairying, and returning to cotton would be unwise even in view of its favorable position. However, on those farms where cotton is better adapted and yields are favorable it might be well to increase cotton acreage to the limit of expected labor supplies.

Although much of the Southwest blackland is well adapted to cotton, labor costs and bad weather in the past 2 years have held down cotton acreage and encouraged plantings of small grains. On these farms it might well be profitable to increase cotton acreage in 1947 and plant less small grain. But, in the more eroded sections, farmers will not want to increase cotton acreages at the expense of feed production which would threaten their increasingly important livestock industry.

### **Smaller Peanut Acreage**

Because the demand for edible peanuts probably will slacken in 1947 many farmers in the Southeast Coastal Plains probably will want to reduce their acreage of peanuts picked and threshed. This year may give farmers here a good chance to begin the return to better soil conservation. With the outlook favorable for both cotton and pork, these farmers can choose between increasing either the acreage of cotton or of peanuts for hogging-off. Good management may often call for growing some of each crop. How much acreage will be planted to each crop will have to depend largely on the supply of labor and of fertilizer and other materials. Whereas cotton competes with dug peanuts for labor at harvest time, peanuts for hogging use almost no labor during cotton picking time. Besides, some soil conserving benefits are obtained from hogging-off peanuts.

On many farms of the Coastal Plains, feed crops have long been getting little attention because of the emphasis on cash crops. Thus

yields of feed crops have not been good. But through land selection, and better fertilizing and cultivation, along with use of adapted seed, feed-crop yields can be lifted a good deal. This would help the area toward smaller reliance upon feed in shipments. Low cost pasture improvement practices should also be a part of farmers' plans to up their feed production here.

Peanut farmers in such areas as the Cross Timbers and Rio Grande Plains of Texas face a probable falling off in demand for their product and have a limited choice of other crops. In the Rio Grande Plains truck crops such as watermelons, cantaloupes, spinach and onions offer some opportunity. However, the market for these crops is sensitive, and overproduction might result if acreages are increased much. Probably the best thing to do here is to work along lines aimed at cutting costs and increasing efficiency in peanut production.

### **Tobacco Profitable**

In areas where cotton and tobacco are important crops, most farmers have found tobacco the most profitable enterprise with cotton second. As this will probably be true also in 1947, it is likely to pay these farmers to plant their full tobacco allotment.

But by trimming corn acreage a little and putting in more lespedeza hay following small grain, these farmers could increase cotton and small grain acreages. In addition to adding to the feed supply, small grains work well in rotation. Up to the limits of land and labor available, it might be well to increase cotton acreage. Despite the decrease mentioned for corn acreage, feed production could be increased. This could be done in part by land selection, proper fertilizing, and use of adapted hybrid seed corn, and in part by an increase in acreage of small grains. Some increase in the production of pork and a better balanced ration for other livestock would thus be practical.

### **Large Wheat Plantings**

During the past few seasons farmers in the southern rolling plains of Oklahoma and Texas, have been encouraged by a strong wheat demand and good growing conditions and discouraged by labor shortages, poor

# Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39 =100) <sup>1</sup>	Income of industrial workers (1935-39 =100) <sup>2</sup>	1910-14=100			Index of prices received by farmers (August 1909-July 1914=100)				
			Wholesale prices of all commodities <sup>3</sup>	Prices paid by farmers		Farm wage rates <sup>4</sup>	Livestock and products			
				Com- modi- ties	Com- modities, interest, and taxes		Dairy products	Poul- try and eggs	Meat ani- mals	All live- stock
1910-14 average.....	58	50	100	100	100	100	101	101	101	
1915-19 average.....	72	90	158	151	150	148	148	154	163	
1920-24 average.....	75	122	160	161	173	178	159	163	123	
1925-29 average.....	98	129	143	155	168	179	160	155	148	
1930-34 average.....	74	78	107	122	135	115	105	94	85	
1935-39 average.....	100	100	118	125	128	118	119	109	119	
1940-44 average.....	192	234	139	150	148	212	162	146	171	
1945 average.....	203	286	154	180	174	350	197	196	210	
1946 average.....	170			203	194	378	242	198	256	
1946										
January.....	160	235	156	184	177	361	203	197	206	
February.....	153	218	157	185	178		202	168	214	
March.....	168	238	159	187	180		201	167	219	
April.....	165	247	161	188	181	362	199	166	225	
May.....	159	248	162	192	185		198	173	226	
June.....	171	264	165	196	188		207	178	230	
July.....	172	268	182	209	199	378	245	196	268	
August.....	177	<sup>5</sup> 285	188	214	204		257	199	294	
September.....	180	287	181	210	200		271	221	249	
October.....	181	287	196	218	207	378	300	257	318	
November.....	<sup>5</sup> 182	293	204	224	212		307	230	313	
December.....	179			225	213		312	226	311	
1947										
January.....				227	215	399	292	201	306	
									281	

Year and month	Index of prices received by farmers (August 1909-July 1914=100)								Parity ratio <sup>6</sup>	
	Crops							All crops and live-stock		
	Food grains	Feed grains and hay	To-bacco	Cotton	Oil-bearing crops	Fruit	Truck crops			All crops
1910-14 average.....	100	101	102	96	98	99	-----	99	100	100
1915-19 average.....	193	164	187	168	187	125	-----	168	162	106
1920-24 average.....	147	126	192	189	149	148	<sup>7</sup> 143	160	151	86
1925-29 average.....	140	119	172	145	129	141	140	143	149	89
1930-34 average.....	70	76	119	74	72	94	106	86	90	66
1935-39 average.....	94	95	175	83	106	83	102	97	107	84
1940-44 average.....	123	119	245	131	159	133	172	143	154	103
1945 average.....	172	161	366	171	215	220	224	201	202	116
1946 average.....	201	195	382	228	244	226	204	226	233	120
1946										
January.....	179	164	375	180	213	225	249	207	206	116
February.....	180	166	368	186	212	233	275	213	207	116
March.....	185	171	367	183	208	229	283	215	209	116
April.....	185	171	368	190	210	244	282	220	212	117
May.....	198	188	369	194	214	248	177	215	211	114
June.....	200	195	370	210	219	261	185	223	218	116
July.....	215	244	369	249	242	249	163	240	244	123
August.....	203	225	388	271	242	203	162	233	249	122
September.....	207	221	396	285	236	210	154	236	243	122
October.....	218	222	410	304	255	208	151	244	273	132
November.....	220	187	399	236	342	186	207	230	263	124
December.....	224	186	406	242	334	211	166	232	264	124
1947										
January.....	223	184	399	240	336	196	238	236	260	121

<sup>1</sup> Federal Reserve Board; represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

<sup>2</sup> Computed from data furnished by Bureau of Labor Statistics and Interstate Commerce Commission on pay rolls in mining, manufacturing, and transportation; monthly data adjusted for seasonal variation. Revised May 1946.

<sup>3</sup> Bureau of Labor Statistics.

<sup>4</sup> Monthly data adjusted for seasonal variation.

<sup>5</sup> Revised.

<sup>6</sup> Ratio of prices received to prices paid for commodities, interest, and taxes.

<sup>7</sup> 1924 only.

yields, and the low quality of cotton. As a result they have planted more wheat and less cotton. Some farmers will not want to up their cotton acreages this year. However, it may pay some of them, especially those who have access to seasonal labor, to push cotton onto some land they usually put into grain sorghums and other feed crops.

Many farmers in this area have temporarily increased their livestock numbers by buying feeder cattle and lambs to put onto wheat pasture.

Because soil moisture is the big "if" in this area, cropping practices should be used and rotations planned that point toward water conservation. Pastures can be helped out by mowing for weed and brush control, and, if farmers can get seed at reasonable prices, it might be well to seed bare pasture areas in order to allow seedlings to take root while there is enough moisture.

### Heavy Rice Demand

Because rice production in foreign countries is not yet back to normal, American rice farmers can expect another year of strong demand for domestic rice. For the past few years rice acreages have been large, and on many farms it has been planted more frequently than is advisable. Though farmers will probably find it profitable to hold production up near present levels, many will want to get into a good position to retrench when and if conditions become less favorable.

Where practical, farmers will probably profit by buying combines and other equipment to reduce hand labor and handle the rice crop more efficiently. Intensive use of rice land has tended to reduce yields. In some areas, nitrogen fertilizer will tend to minimize this trend. Planting of oats and lespedeza on land when not in rice will provide a good cover crop and in addition afford a good feed crop for those who keep livestock.

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American farming was worth 101½ billion dollars at the beginning of 1946, nearly double the value on January 1, 1940. On the basis of 5.9 million farms in the country, the average farm was worth statistically a little over \$17,000.

## West

**D**ESPITE six consecutive years of high production, western farmers are still geared for top production of both crops and livestock. A more abundant supply of farm labor and machinery than in 1946 is likely. However, production costs will be higher. During the war western farmers expanded their cropland by several million acres. At the same time, particularly in the Great Plains States, they turned some cropland back to grass. Most of the increase in cropland has been in dryland grain-producing areas. Besides using more land for crops, the intensity of use has been generally greater. In irrigated areas more cropland has been leveled or re-leveled to permit more effective use of available water.

Some of the wartime production gains were made at the expense of good farming practices. The acreage and proportion of land in summer fallow was reduced in parts of the Great Plains. Increased fallowing will pay off in the Great Plains, especially if precipitation drops to normal. More grassland was broken out than appears desirable for a stable agriculture. Although much of the new land opened up was selected more carefully than was the case 25 years ago, real problems lie ahead on the poorer grades and in the drier areas. Erosion on much of it is generally recognized. The potential damage is so great that re-grassing should be done as soon as possible while moisture is available. A few successive dry years might very well result in severe wind erosion in some areas.

### More Wheat, Flax; Less Peas

Wheat farmers, with three successive record-breaking crops behind them, are being called on for large production again this year. This will postpone largely their return to better soil conserving crops and practices. Even so, some changes will be needed.

It may pay some farmers in the Northern Great Plains to raise more flax rather than wheat, particularly where sawfly infestations are heavy and seed supplies of resistant varieties of wheat are limited. Other farmers, looking forward to continued price supports in 1948, may well consider increasing their 1947 acreage in summer fallow. This is especially desirable in areas where

weed damage may be had. Some changes should be made this year to help meet the problems of next year or later when the demand for wheat is reduced. Planting alfalfa or sweetclover with small grains as a nurse crop would pave the way for later reduction of wheat in some areas.

The price outlook for flaxseed is good this year. Farmers with suitable soils and equipment may well find flaxseed more profitable than wheat or barley. Flaxseed plantings in California are believed to be larger than in 1946. Other major areas in the West where flax plantings may be increased profitably are in Kansas, the Dakotas, and perhaps to some extent in Montana. Farmers in some winter wheat areas will use flax as a nurse crop for sweetclover or lespedeza.

In the wheat-pea area of the Pacific Northwest, farmers probably will profit in 1947 if they reduce peas in favor of wheat. Planting wheat on most summer fallow and pea ground will probably be a good plan. More farmers than usual may find it pays to seed wheat after wheat, especially if they add nitrate to the soil. If this practice is followed, the stubble should be well mixed with the soil to control erosion. In areas abnormally infested with weeds, it may be desirable to increase summer fallow. This year may also be a good time for many farmers to begin restoring wartime cuts in soil-conserving crops. More alfalfa and other hay will restore the basis for a substantial livestock enterprise.

### **Fewer Potatoes; More Beets, Beans**

In the West's principal potato producing areas few other crops are likely to be as profitable as potatoes at support prices. Therefore, most farmers here will do well to plant to the limit of their allotments. Fortunately, however, there are excellent, practical alternatives to potatoes in many parts of the West. The demand for sugar beets and dry beans will probably stay strong enough to take all 1947 production at prices at or above support prices. Except for a few special crops limited to relatively few areas, these two crops and alfalfa are the principal alternatives to potatoes.

On cash crop farms in several western irrigated areas, either dry beans or sugar beets fit well in the rotation as substitutes for potatoes. With the prospects for more labor

and additional sugar beet machinery, a larger acreage of sugar beets can be cared for this year. In the sheep and cattle feeding areas where sugar beet byproducts are so important for feed, sugar beets may well replace some potato plantings. In combination with livestock feeding they are important in maintaining and building up soil fertility. Land just out of potatoes is often in good condition for sugar beets. Within the limitations of available machinery, labor, and processing plant capacity, many farmers may well consider planting most of their excess potato land to sugar beets.

For the most part, sugar beet growers will be in good shape to plant up to the national sugar-beet goal of 1,069,000 acres—21,000 acres above the record plantings in 1942. Sugar from the 1947 crop will undoubtedly be in great demand. After 1947 the outlook is not quite so certain. Off-shore sugar sources may be in full production by next year. Increased acreage of sugar beets is desirable now, but the longer time outlook should be kept in mind. And even in 1947 plant capacity, competing crops and desirable rotations put a limit on beet acreage.

In California, cotton, alfalfa, small grains, flax, and vegetables compete with sugar beets. Many growers in California could plant larger sugar beet acreages, but processing plant capacity is a limiting factor.

The demand for dry beans looks strong enough and stocks are low enough that it will be hard to produce enough in 1947. Production from the National goal of 2.2 million acres would all be used in the United States and territories. Also any extra production probably would find a ready foreign market.

To a limited extent growers in the Great Plains bean areas may wish to displace part of their summer fallow with beans. The big limits on an increase in plantings in the West will come from competition with sugar beets or potatoes in irrigated areas, maintaining a cropping system to control erosion, especially in the nonirrigated pinto areas, and lack of suitable land. The extent of suitable land is limited in part by the cumulative effects of beans following beans year after year during the war.

### **Too Many Cattle?**

Ranch income in the past few years has been favorable despite higher costs. This situation has

permitted liquidation or reduction of debts and has put cattle ranchers generally in a better financial position. The record corn crop in 1946 and generally good supplies of other feeds have helped furnish an active demand for western feeder and stocker cattle. The strong demand for meat is not expected to weaken much in 1947, though prices may decline somewhat.

Cattle numbers are high. They are pushing to the limit ranges which have grown abundant feed through several years of generally favorable weather. But when weather becomes less favorable fewer cattle can be kept. Thus cattlemen will find it to their advantage to make adjustment now and be prepared to further adjust their operations when the ranges are dry again.

To rebuild depleted range lands or improve good ranges is a slow process, but stockmen are giving thought to this now. This is a good time for improving the feed base on farms, range, and pasture lands.

However, most ranchers probably should delay extensive fencing and construction projects, as well as land purchases, until costs are lower.

Many ranchers can improve their feed by producing more and better-quality winter feed. It pays dividends always to give attention to the proper timing of hay harvest in terms of nutrition, and to use of improved hay-harvesting and feeding methods to reduce labor requirements. One of the most important adjustments many stockmen can make this year and next is to reseed their summer-fall ranges while moisture allows. This is particularly true in the intermountain area where increased forage production on the spring and fall range is greatly important and where much of the range is owned privately.

Ranchers in the 15 Western States have record high numbers of cows and heifers 2 years old and over. Instead of continuing to expand the breeding herd and maintaining such large numbers, cattlemen generally will be better off if they begin ad-

### Prices of Farm Products

Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		Jan. 15, 1946	Dec. 15, 1946	Jan. 15, 1947	Parity price Jan. 15, 1947
	August 1909-July 1914	January 1935- December 1939				
Wheat (bushel).....dollars..	0.884	0.837	1.54	1.92	1.91	1.90
Rye (bushel).....do.....	.720	.554	1.50	2.18	2.18	1.55
Rice (bushel).....do.....	.813	.742	1.76	2.15	2.17	1.75
Corn (bushel).....do.....	.642	.691	1.10	1.22	1.21	1.38
Oats (bushel).....do.....	.399	.340	.717	.808	.796	.858
Barley (bushel).....do.....	.619	.533	1.09	1.36	1.36	1.33
Sorghum, grain (100-pound).....do.....	1.21	1.17	2.17	1.97	2.03	2.60
Hay (ton).....do.....	11.87	8.87	15.70	17.70	17.50	25.50
Cotton (pound).....cents.....	12.4	10.34	22.36	29.98	29.74	26.66
Soybeans (bushel).....dollars.....	2.96	.954	2.09	2.75	2.93	<sup>3</sup> 2.06
Peanuts (pound).....cents.....	4.8	3.55	8.37	8.89	8.91	10.3
Flaxseed (bushel).....dollars.....	1.69	1.69	2.89	6.94	6.95	3.63
Potatoes (bushel).....do.....	.697	.717	1.45	1.26	1.29	1.59
Sweetpotatoes (bushel).....do.....	.878	.807	2.08	2.10	2.20	1.89
Apples (bushel).....do.....	.96	.90	3.53	2.51	2.65	2.06
Oranges on tree (box).....do.....	<sup>4</sup> 2.29	1.11	2.12	1.57	.67	3.25
Hogs (hundredweight).....do.....	7.27	8.38	14.10	22.70	21.80	15.60
Beef cattle (hundredweight).....do.....	5.42	6.56	11.80	17.40	17.30	11.70
Veal calves (hundredweight).....do.....	6.75	7.80	13.60	17.40	18.00	14.50
Lamb (hundredweight).....do.....	5.88	7.79	13.00	18.60	19.00	12.60
Butterfat (pound) <sup>5</sup> .....cents.....	26.3	29.1	<sup>1</sup> 51.1	87.0	74.3	<sup>6</sup> 58.7
Milk, wholesale (100-pound) <sup>5</sup> .....dollars.....	1.60	1.81	3.39	5.12	4.96	<sup>6</sup> 3.64
Chickens (pound).....cents.....	11.4	14.9	23.5	27.4	25.6	24.5
Eggs (dozen).....do.....	21.5	21.7	41.1	47.0	41.3	<sup>6</sup> 48.0
Wool (pound).....do.....	18.3	23.8	<sup>1</sup> 40.8	41.1	40.6	39.3

<sup>1</sup> Revised.

<sup>2</sup> Comparable base price, August 1909-July 1914.

<sup>3</sup> Comparable price computed under sec. 3 (b) Price Control Act.

<sup>4</sup> 1919-28 average for computing parity price.

<sup>5</sup> Does not include dairy production payments made directly to farmers by county PMA offices October 1943 to June 1946.

<sup>6</sup> Adjusted for seasonality.

justing numbers to a more normal feed supply (recognizing, of course, that waste is associated with understocking as well as overstocking). Now while prices are up is the time to reduce numbers on overstocked ranches. Many herds are now overbalanced with females of breeding age which should be culled out. This type of stock adds to the hazards of wintering on a narrow margin of hay supplies. These adjustments would also help conserve depleted reserves of winter feed. Adequate reserves are essential as a hedge against inevitable dry years, as well as against long severe winters.

Improvements in organization and management practices will be of pressing importance when prices decline. The following would increase the efficiency of many ranches: (1) reduction in death losses and increases in the calf crop by feeding small quantities of oil cake to cows prior to calving, use of breeding pastures, breeding of 2-year-old heifers rather than yearlings, and better control of diseases and insects; (2) limiting breeding season to produce a more nearly uniform calf crop; (3) culling on "both ends"—selecting the best heifers for replacements and eliminating unprofitable cows; (4) maintaining a stable breeding herd but with flexible numbers of stock cattle.

## More Sheep

Much of what has been said about adjusting cattle numbers to feed supplies, production of winter feed, and feed reserves is equally applicable to sheep ranches. The principal differences in 1947 and 1948 involve possible increases in sheep numbers rather than a decrease. Since 1943 sheep numbers have gone down more than 25 percent in the 15 Western States. Many sheepmen switched to cattle, and many mixed outfits went out of the sheep business. The outlook for the sheep industry during the next few years is for (1) low supplies of lamb and mutton and high prices relative to beef and pork, and (2) large stocks of wool.

A major production obstacle on sheep ranches during the war years was the shortage of skilled herders. By now, however, enough herders are available to conduct normal herding operations without reducing numbers of sheep. A major obstacle still facing those ranches who wish to expand is the relatively high pro-

portion of old ewes in most range flocks. This situation is likely to contribute to high death losses on the winter range and to a relatively low lamb crop in 1947. Thus sheep numbers will decrease further before they increase.

Most sheep ranchers will want to provide for young replacement ewes this year as a step toward increasing total numbers. Operators of crossbred flocks who must purchase their replacements will have strong competition not only from feeders and buyers but from ranchers who raise their own replacements.

Although it is reasonably sure that sheep ranchers generally cannot expand their operations appreciably during the next 2 years, many may find it worth while to adopt or improve on the following practices: (1) Increase the lamb crop by controlling parasites, worming treatments and frequent change of range, (2) conditioning ewes before the breeding and lambing seasons, (3) giving improved care at lambing time, (4) handling rams with proper care throughout the breeding season, (5) reducing death losses by controlling predatory animals, providing special care of ewes at lambing time and by timely culling of old ewes, (6) using purebred rams of breeds approved for the range country to increase the weights of both lambs and fleeces, (7) reducing labor costs per head by running full bands. Hired labor is generally one of the largest items of expense on sheep ranches, and spreading it over full bands is always important.

## Greater Milk Output

Western farmers began 1947 with fewer milk cows than at the beginning of 1946. However, the continued strong demand for dairy products, generally more adequate feed supplies, and some improvement in both quantity and quality of farm labor as well as labor substitutes may encourage farmers to halt the downward trend in milk cow numbers. Improved feeding offers one of the most practical methods of increasing milk production. Although the outlook for dairy products is good this year, most farmers probably will not find it practical to make drastic changes in their dairy enterprise. Labor costs will stay up and the prices of materials and equipment will discourage large investments in 1947.

Egg production in 1947 is expected to be slightly below last year as there are fewer hens and pullets and feed prices are expected to continue high. Most farmers in the West probably will want to continue their poultry enterprise at about the 1946 level, putting major emphasis on improved feeding and handling practices. Building up small farm flocks to consume waste feed would be desirable on some farms. Continued high production or some expansion of the broiler and turkey enterprise may be desirable for the experienced grower.

Hog production in the West has been on the down grade since 1943, with farrowings last year only about half of what they were 4 years ago. But spring farrowings this year will be considerably higher than in 1946. Many western farmers may wish to have more sows bred for fall farrowing than they did last year. Al-

though the outlook for hog prices may not justify large increases, many farmers in irrigated areas will want to plan on enough hogs to consume unmarketable feed, including pastures and waste grains. Some expansion of hog production in other areas, particularly in the eastern portion of the Great Plains States, also seems justified. It may pay Northwestern farmers to make a beginning toward expanding their hog enterprise, at least enough to consume cull peas, off-grade wheat, and garbage. However, this is not the time to make large increases. Hog prices are abnormally high and could fall relatively more than wheat before reaching support levels, but a continued strong consumer demand for meats in 1947 appears reasonably certain.

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## Prospective Crop Yields for 1947

**T**HE Nation's farmers, at the threshold of another crop season, are setting the stage for another year of top production of most crops.

The outcome of farm production in 1947 can be more than merely guessed at, even this early in the season. Many factors, already known, will have a bearing on production this year. Right now the physical conditions affecting 1947 crop prospects are fully as promising as those preceding any of the recent record crop years. And, though weather can influence crop yields more than any other factor, unusually favorable weather in the past seven crop years has been responsible for only about a fourth of the big gains in yields over the 1923-32 pre-drought levels.

Some important facts are already known about things that will influence crop yields in 1947. Fall and early winter conditions have been favorable. Because crops in 1946 were harvested early, fields could be prepared for fall and spring planting. Quality seeds are in ample supply. More commercial fertilizers and new farm machinery will be available. Soil moisture is generally adequate. The supply of irrigation water in the West is promising, although the snow pack in the southern Rocky Mountains has not yet

reached desired depths. The supply of farm labor is expected to be much larger than during the war. Last, but not least, farm products continue in strong demand.

### Fourth Highest Yields Possible

Taking all these factors into account and assuming average growing conditions, 1947 crop yields per acre seem likely to average about 30 percent higher than during the 1923-32 pre-drought period. This would be the fourth highest of record, having been exceeded only in 1942, 1944, and 1946. This prospect, of course, will change as the season progresses. If the weather turns out better than usual, aggregate yields per acre could go even higher. On the other hand, bad breaks in the weather or severe outbreaks of insects and disease could result in a poorer outturn than now foreseen. But serious drawbacks rarely strike all parts of the Nation in any one growing season.

Aggregate crop yields during the past 10 years have averaged a fourth larger than in the 1923-32 pre-drought period. In years to come the performance of America's farmers during the period 1937-46 may stand as a record. However, this discussion refers to yields per acre—not total volume of production. Yields

per acre could easily climb while the total volume of farm production declined.

The farmer is not without aid when it comes to overcoming obstacles that block his efforts to produce more per acre. The plant breeder who develops new and better varieties, the machinery manufacturer who designs more efficient farm equipment, the chemist who finds new uses for farm products and better fertilizers, the agricultural engineer who works out better ways to make the good earth produce yet preserve the soil for future generations, and many others, all help the farmer to produce more crops per acre. "Yankee ingenuity" works in peace as well as in war, on farms as well as in industry. When one plant variety fails to measure up to expectations, others quickly take its place. Ways are being developed to combat adverse weather, particularly in the Great Plains country where weather is the most uncertain factor in crop production. Summer fallowing is increasing in popularity, and particular ways of fallowing are being developed so as to better save moisture. All of these newer and improved ways of farming have helped to tip the scales in favor of bigger yields per acre.

## Regional Yield Picture

Yield prospects this early in the season can best be judged by an appraisal of conditions by areas of the country and even by individual crops. Yields per acre in the 10

Great Plains States, comprising 40 percent of the Nation's cropland, are often the key to the national level. Yields in this big questionable area are difficult to predict early in the season — before planting — because spring and early summer rainfall is so necessary to good yields. The northern half of this area is the spring wheat-flax territory, the southern half the winter wheat-sorghum territory. Soil moisture in the entire area is now the best of many years and especially good in the Southern part where big acreages of winter wheat are growing, with very bright prospects. Last December's estimate of the 1947 winter wheat crop for the entire United States showed another acreage increase, with a probable yield of about 18 bushels per harvested acre.

The 10 Great Plains States have over two-thirds of the total 1947 winter wheat acreage and easily hold the key to the national average yield per acre. Here, also, normally about five-sixths of the spring wheat is grown, and from present indications the yield in 1947 should exceed that of last year by a bushel or so if normal rainfall is received during the growing season. Taking the area as a whole, moisture reserves are much more ample than at this time last year. If weather is about normal in 1947, this big area should have better over-all yields than last year and probably 12 to 15 percent above the 1923-32 average.

In other parts of the country yield prospects look good. There are but

## 1947 Prospective Crop Yields per Harvested Acre, United States Average, With Comparisons

	All corn	All wheat	Oats	Barley	Tame hay	Cot- ton	Soy- beans	Dry beans	Po- tatoes	Tobac- co	28 crops (percent of 1923- 32 aver- age) <sup>1</sup>
	Bu.	Bu.	Bu.	Bu.	Tons	Lb.	Bu.	Lb.	Bu.	Lb.	Percent
1880-99.....	25.9	13.4	27.5	23.7	1.25	182			82	732	
1900-19.....	26.6	14.3	29.9	23.2	1.31	185			96	818	
1923-32.....	25.4	14.4	30.2	22.6	1.28	170	12.9	667	112	770	100.0
1934-43.....	26.8	14.7	29.6	22.3	1.34	231	17.6	872	124	926	111.9
1942.....	35.2	19.8	35.6	25.5	1.53	272	18.7	987	137	1,023	136.2
1943.....	32.1	16.6	29.6	21.9	1.43	254	18.1	870	140	965	124.1
1944.....	33.0	18.1	29.8	23.0	1.41	299	18.3	791	131	1,117	133.3
1945.....	32.7	17.0	36.6	25.5	1.52	254	18.0	881	155	1,095	129.7
1946.....	37.1	17.2	34.6	25.1	1.48	231	20.5	977	184	1,153	134.2
Prospective 1947 <sup>2</sup> .....	34.0	17.0	34.0	25.0	1.40	250	19.0	900	155	1,075	130.0

<sup>1</sup> Crops included in the average, in addition to the 10 listed in the table, are: sorghum grain, rye, flaxseed, rice, wild hay, peanuts, sweetpotatoes, sugar beets, apples, 4 citrus fruits (oranges, tangerines, grapefruit and lemons) as a group; and 6 other fruits (peaches, pears, grapes, plums, prunes, and apricots) as a group.

<sup>2</sup> Indications in January 1947. Actual yields can be expected to be higher or lower to the extent that subsequent weather is more favorable or less favorable than average.

a few isolated areas where moisture reserves now are below normal—mainly in a few areas of the Southeast, particularly Florida. Snow cover has been sufficient in most winter grain areas to protect the crop from freezing. In the Northern States east of the Plains, which includes most of the "corn country," and in the seven States west of the Rockies, composite yields of field crops may not equal those of 1946, but should equal or exceed those of any other year, except the record year 1942.

In the South, to the east of Texas and Oklahoma, the outlook is for better cotton yields than last year. This area takes in about a fifth of the Nation's total cropland and includes a big slice of the cotton acreage. However, cotton yields here are not expected to equal those of 1942 through 1944. Yields of grains in the area should be about as high as last year. If aggregate yields per acre are up to those of 1946 in this area as a whole, that is about all that can be expected this year.

### Crop-by-Crop Appraisal

A look at prospects for a few individual crops is enlightening. Taking into consideration known factors which influence crop yields, including acreage shifts, it is very evident that under present conditions the trend in crop yields continues upward. The most probable corn yield this year appears likely to be 34 bushels per acre—nearly 4 bushels below last year, but previously exceeded only in 1942. Assuming average weather, another 3 billion bushel crop seems very likely.

In view of the December estimates of winter wheat acreage, it seems reasonable to expect a national yield of over 17 bushels of all wheat this year. With an even break in weather and assuming about average spring wheat production, a total crop exceeding even the 1946 output of 1.2 billion bushels is possible.

The setback experienced by some new varieties of oats last year seems only temporary, for even better varieties are ready to take their place. Current factors point to about 34 bushels per acre, which is under last year but still a good performance. Barley prospects indicate a yield of about 25 bushels, rye prospects about 12 bushels, sorghum grain 15½ bushels, flaxseed 8½ bushels, rice 46 bush-

els, peanuts 675 pounds, and tame hay about 1.40 tons per acre.

Assuming some increase in cotton acreage and considering factors which have influenced yields in recent years, it seems reasonable to expect a yield of about 250 pounds per acre this year. Tobacco yields should average about 1,075 pounds per acre, sugar beets 12½ tons, dry beans 900 pounds, potatoes 155 bushels and sweetpotatoes 95 bushels.

Despite a probable increase in soybean acreage this year, the yield in 1947 should be about 19 bushels per acre. Improved varieties are holding yields up and there is sufficient seed of the newer varieties to plant at least half of the 1947 acreage.

Production per bearing acre of apples, other deciduous tree and vine fruits, and citrus, all as a group, reached record proportions last year, about 64 percent above the 1923-32 average. However, a repetition of this big performance can hardly be expected in 1947 because of the drain on the vitality of trees and vines. Nevertheless, barring unusual weather losses in production per acre this year, fruit crops may average only 7 percent below last year but 50 percent above the 1923-32 average.

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### To Protect U. S. Farmers

**C**ONTROLS recently reimposed by the Department of Agriculture bar importation of cattle, sheep, goats, swine, fresh meat and other specified products from Mexico because of the appearance of foot-and-mouth disease in that country. This will prevent the importation of probably close to half a million cattle from Mexico during the next 12 months—a small price to pay to help prevent the outbreak of disease in the United States.

Although no outbreaks have occurred in this country recently, experience with epidemics in the past indicates that the disease could have far-reaching economic effects on American agriculture if it became established. Foot-and-mouth disease affects nearly all cloven-footed animals and especially cattle, hogs, sheep, and goats. Once introduced, it can spread wildfire fashion over large areas. The virus of the disease is transmitted by animals susceptible to it, by infected meat, milk, and

other raw animal byproducts, and by rats and other animals ordinarily resistant to the disease. Even man is believed to sometimes carry the virus. The disease can become widespread before its detection, a serious matter in this country where the livestock industry is established in all areas.

No specific medication has been developed for foot-and-mouth disease and drastic measures are necessary to wipe it out. In this country, both infected and exposed animals are slaughtered. Quarantines also are imposed in the areas in which the disease gets a foothold. Because the virus is highly resistant to destruction, it is sometimes necessary to continue quarantine for some time after the last infected animal has been killed.

Costs of combating foot-and-mouth disease are very high. Rigorous inspection, quarantine, and cleaning and disinfection require substantial outlays for materials and labor. Losses due to slaughter of infected or exposed animals can be extensive. During the 1914-15 epidemic, one of the worst, approximately 172,000 animals were killed including 77,000 cattle, 85,000 swine and 10,000 sheep. The appraised value of these animals was approximately \$5,860,000 and the entire cost of eradicating the disease amounted to about \$9,000,000. In past epidemics, State and Federal governments reimbursed farmers for cattle slaughtered. Nevertheless, costs to individual producers still were substantial. The entire herd often was lost. Pastures and ranges used by infected animals often could not be grazed for at least a season following eradication of the disease.

The quarantine on cattle imports from Mexico will have little, if any effect on beef cattle prices in the United States. Most Mexican cattle are small and usually are grazed or fed for several months before being marketed. In terms of prices, the effects of an outbreak of foot-and-mouth disease in this country would be minor unless the epidemic was unusually widespread. Indirect economic consequences, however, could be severe. Quarantine restrictions could disrupt the marketing and

transportation of livestock, hay, straw, hides and other farm products. Eradication measures could interfere with the activities of stockyards and slaughtering houses. During the 1914-15 epidemic, for instance, the Union Stockyards at Chicago became infected which helped spread the disease over a large area. The yards had to be closed until disinfected.

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